

# TOXICOLOGY AND APPLIED PHARMACOLOGY

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## Effect of bark extract of *Oroxylum indicum* L. (Kurz) on electrophoretic patterns of esterase activity and silk yield of *Bombyx mori* (L.)

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*Oroxylum indicum* L. Kurz (Bignoniaceae) is an endangered and medicinally important forest tree species with enormous range of medicinal properties such as anti-inflammatory, anticancerous, anti-helminthic, anti-leucodermatic, anti-rheumatic, anti-anorexic, antimicrobial, antibacterial, antioxidant, analgesic and anti-tussive hence being employed in various traditional medicines such as Ayurveda, tribal and folk medicines for the treatment of various ailments. The present investigation was undertaken to study the effect of bark extract of *O. indicum* on esterase enzyme activity and silk yield of *Bombyx mori* (L). The mulberry silkworm *B. mori* (Lepidoptera, Bombycidae) is a domesticated phytophagous insect feeding on the leaves of mulberry plant and reared indoors. Enriching mulberry leaves by nutrient supplementation is one of the ways to improve growth rate in *B. mori*. Taking this into consideration, some enzymological work has been undertaken with special reference to esterases. For present study, silk worms were fed with leaves of mulberry fortified with different concentrations of bark extract of *O. indicum* and were reared up to the end of V instar larvae. The silk worms were sacrificed to collect haemolymph and silk gland which were analyzed by using 7.5% of native gel electrophoresis. The results obtained revealed that there was a significant increase in the silk yield with an increase in the concentration of bark extract of *O. indicum* and activity of esterase intensity in haemolymph was also increased compared to control, hence it can be concluded that the bark extract of *O. indicum* can be used as a nutrient supplement to enhance the silk yield in *B. mori*, as it is of great economic importance as a foreign exchange earner for many silk producing countries of the world.

### Biography

Samatha Talari has completed her MSc in Botany in 2001 from Osmania University, Hyderabad and obtained PhD in Botany in 2013 from Kakatiya University, India. Presently, she is working as a Post-doctoral Fellow in the Department of Botany, Kakatiya University. She has 15 years of teaching and 8 years of research experience. Her research interest is focused on conservation of endangered medicinal plants through micropropagation and *in vitro* culture techniques. She is trained in screening and extraction of phytochemicals and on the separation of biomolecules and enzyme patterns through various techniques. She has published more than 30 research articles, a review article and one book in various reputed national and international journals.

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